

# Work Order ID 91890

\*91890\*

Page 1

October-19-12 1:05:33 PM

Item ID: D3016-041

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Seat Frame Assembly

Start Date: 10/29/12 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 11/09/12 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12-10-22 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3016

RevA / DEO A-1

100 Weld per dwg A/R 4130 rod Batch: M118875 0.00

\*100\*

Large Fab

Memo

0.00

Large Fab

1-Cut all tubes as per Dwg D3016

2-Deburr

3-Assemble tubes, fittings and weld as per Dwg D3016 using welding jig  
DT8597

4-Transfer drill holes from D3017-041 and D3021-041 in seat frame D3016-041

5- Assemble brackets and gusset per dwg and weld

110

QC9- Inspect visual per QSI004- Fusion Welds 0.00

\*110\*

QC

Memo

0.00

Quality Control

0 2 13-1-24-

1 13-01-24

DAS  
09  
2-89

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>	<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY				
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspector. Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

**\*91890\***

October-19-12 1:05:33 PM

**\*N900040100\***

Setup Start \*NS1\*

Stop **\*NS2\***

**Start Date:** 10/29/12      **Start Qty:** 1.00      **\*1\***

**Cust Item ID:**

**Required Date:** 11/09/12      **Req'd Qty:** 1.00      **\* 1 \***

**Customer:**

**Reference:**

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

**Insp.  
Stamp**

**\*120\***

QC

## Memo

0.00

## Quality Control

130

Grey Sandtex (Ref 4.3.5.6) per QSI005 4.3

0.00

\*130\*

**Powdercoat**

## Memo

0.00

## Powder Coating

Install paint screws on fitting ends

START TIME: 7:50

OVEN TEMPERATURE: 350

FINISH TIME: 8:27

140

### QC3- Inspect Part Finish

0.00

**\*140\***

QC

## Memo

0.00

## Quality Control

NCR: Yes / No

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# Work Order ID 91890

\*91890\*

Page 3

October-19-12 1:05:33 PM

Item ID: D3016-041

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Seat Frame Assembly

Start Date: 10/29/12 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 11/09/12 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location <i>G-A</i>	0.00				<i>1x</i>			<i>13/01/28</i>
<b>*150*</b>									
Packaging	Memo	0.00							
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							<i>13/11/29</i>
<b>*160*</b>									
QC	Memo	0.00							
Quality Control									

*13-01-28*

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

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QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Doc/Data											
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FAULT CATEGORY				
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# Picklist Print

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Page 1

Work Order ID: 91890

Parent Item: D3016-041

Parent Item Name: Seat Frame Assembly

Start Date: 10/29/12

Required Date: 11/09/12

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A01.09.19New issueECIPP RevB: as per revB DD verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M4130NT0.750W.049 4130 RD Tube .750 x.049W		Purchased	No			100	f	183.2100	4.3	4.5263158			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT033		183.21							
				121025		7.01							
				122425		40							
				122812		58.2							
				123339		78							
M4130NT0.500W.049 4130 RD Tube .500 x.049W		Purchased	No			100	f	71.6830	4.3	4.5263158			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT032		71.683							
				121025		20.85							
				123339		50.833							
M4130NT1.000W.120 4130 RD Tube 1.00 x .120wall		Purchased	No			100	f	56.6400	1.5	1.5789474			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT033		56.64							
				117656		18.69							
				117973		37.95							
D3016-17 Gusset		Manufactured	No			100	Each	12.0000	2	2			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA021		12							
				70872		6							
				70909		6							

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

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Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
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Doc/Data <input type="checkbox"/>											
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FAULT CATEGORY				
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# Picklist Print

October-19-12 1:05:32 PM

Page 2

Work Order ID: 91890

Parent Item: D3016-041

Parent Item Name: Seat Frame Assembly

Start Date: 10/29/12

Required Date: 11/09/12

Start Qty: 1.00

Required Qty: 1.00

D3016-13	Manufactured	No	100	Each	12.0000	2	2
Bracket							<u>EL 13-1-23</u>

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

WA	12	
86701	4	
90292	8	

D3016-15	Manufactured	No	100	Each	15.0000	2	2
Gusset							<u>EL 13-1-24</u>

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

WA	15	
86648	6	
90616	9	

D3020-1	Manufactured	No	100	Each	16.0000	4	4
Fitting							<u>EL 13-1-22</u>

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
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WA	16	
90639	16	

86801 x 4

NCR: Yes / No

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DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3016	REV. A SHEET 1 OF 3
DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY	SCALE NTS
A	01.05.18	NEW ISSUE	

QTY	PART NUMBER	DESCRIPTION	MATERIAL
X	D3016-041	SEAT FRAME ASSEMBLY	N/A
1	D3016-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3016-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3016-5	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
2	D3016-7	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
1	D3016-9	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-11	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-13	BRACKET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-15	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-17	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
2	D3020-1	FITTING	N/A

#### NOTES

- 1) WELD PER DART QSI 004
- 2) ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

12-10-22  
91890 M.C.S.  
NOT FOR AMENDMENT  
FOR OFFICE  
WORK ORDER  
CONTROLLED COPY  
ENGINEERING  
RETURN TO  
COPY

DEO ATTACHED

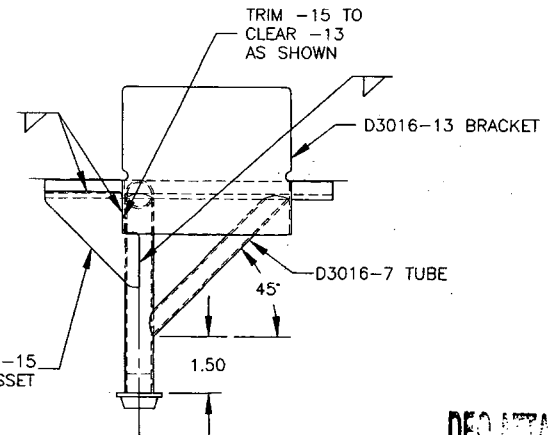
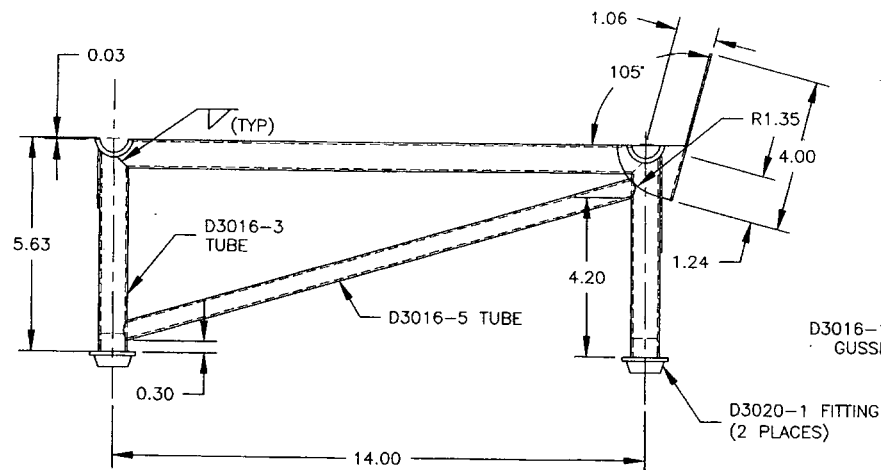
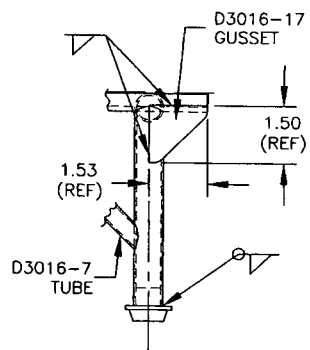
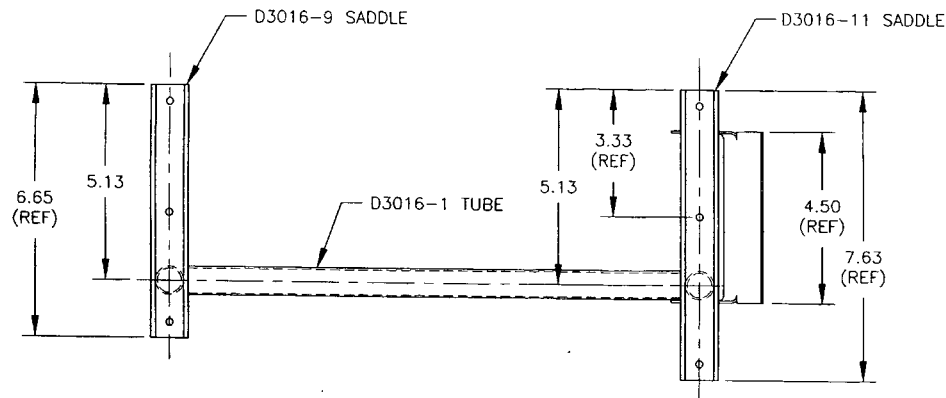
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01.05.30 *#*

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D3016-041 SEAT FRAME ASSEMBLY

91890



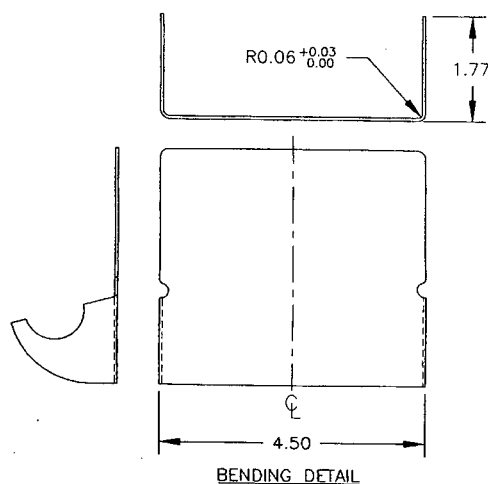
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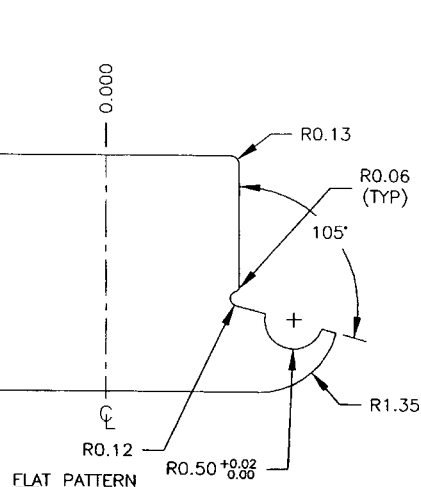
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DESIGN UP	DRAWN BY UP	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D3016	REV. A SHEET 2 OF 3
DATE 01.05.18	TITLE SEAT FRAME ASSEMBLY	SCALE 1:3	

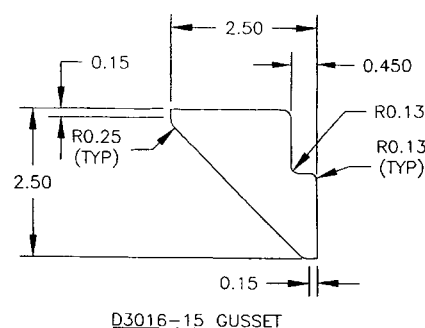
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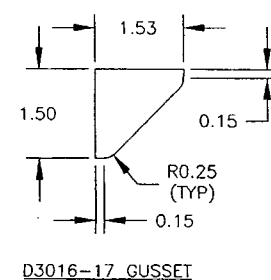
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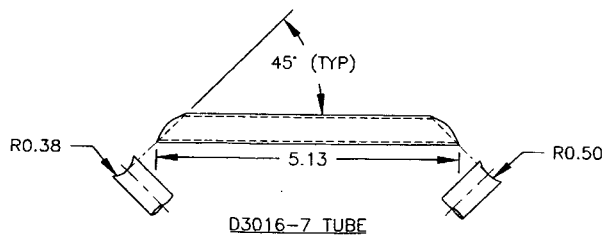
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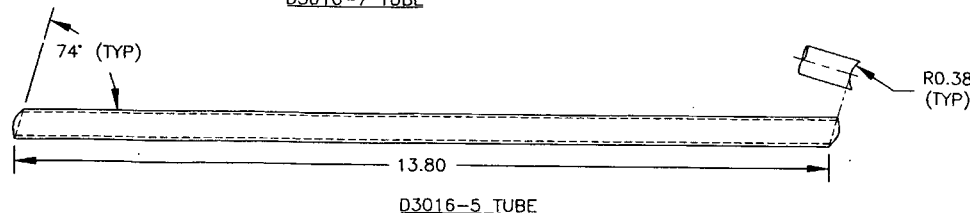
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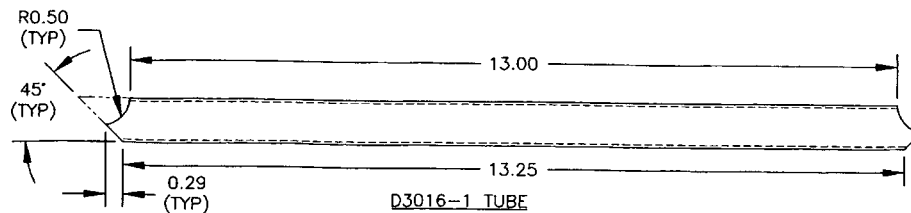
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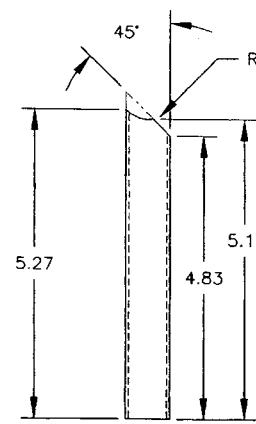
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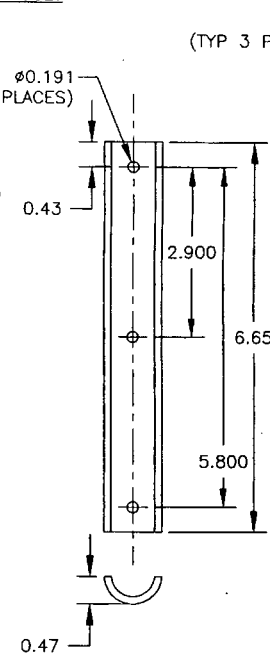
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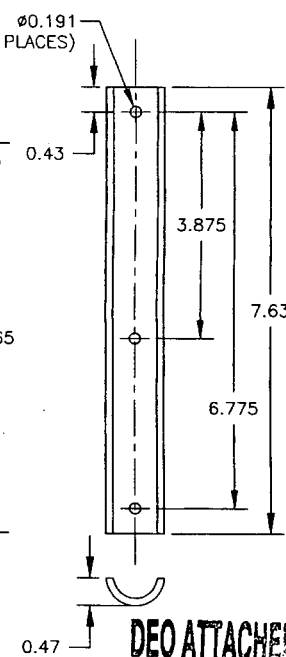
D3016-1 TUBE



D3016-3 TUBE



D3016-9 SADDLE



D3016-11 SADDLE

DEO ATTACHED  
RELEASED  
9.05.30

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		CHECKED	APPROVED	DRAWING NO.	REV. A
		#	#	D3016	SHEET 3 OF 3
		DATE		TITLE	SCALE
		01.05.18		SEAT FRAME ASSEMBLY	1:2

91890

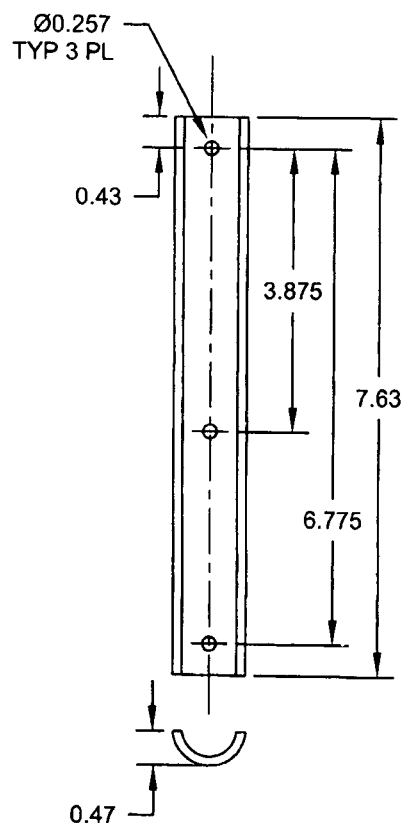
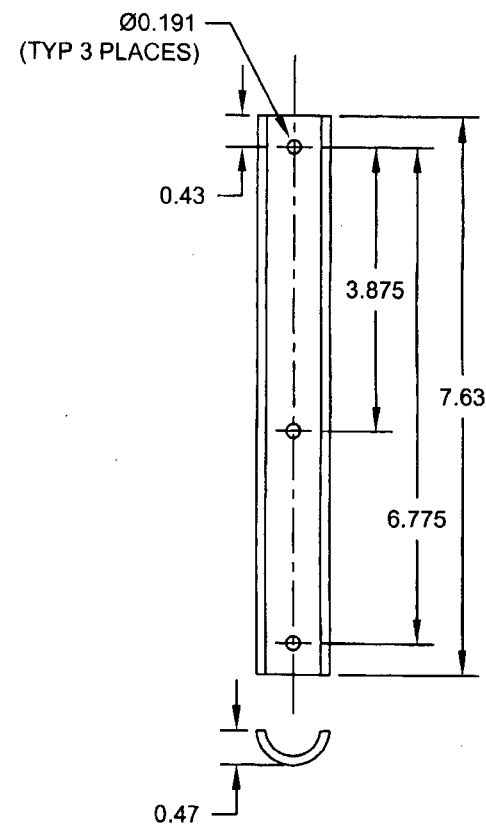
DRAWING NO. D3016	TITLE SEAT FRAME ASSEMBLY	REV. A	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D3016-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.		
DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29		

**PURPOSE:**

TO REVISE D3016-11 SADDLE'S HOLE SIZES

**CHANGE:**

DETAIL D3016-11 SADDLE (SHEET 3): Ø0.257 TYP 3 PL WAS Ø0.191 (TYP 3 PLACES) AS SHOWN:

**IS:****D3016-11 SADDLE****WAS:****D3016-11 SADDLE**

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